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Shen et al
Appl. No. 10/051,447

Status of the Claims

1. (Original) A micro magnetic latching device, comprising:
a substrate;
a moveable element supported by said substrate and having a magnetic material and a long axis;
first and second magnets that produce a first magnetic field, which induces a magnetization in said magnetic material, said magnetization characterized by a magnetization vector pointing in a direction along said long axis of said moveable element, wherein said first magnetic field is approximately perpendicular to a major central portion of said long axis; and
a coil that produces a second magnetic field to switch said movable element between two stable states, wherein only temporary application of said second magnetic field is required to change direction of said magnetization vector thereby causing said movable element to switch between said two stable states.
2. (Original) The device of claim 1, wherein said first magnet is a permanent magnet that is substantially planar and substantially parallel to said substrate.
3. (Canceled)
4. (Original) The device of claim 2, wherein said second magnet is a permalloy layer that is substantially planar and substantially parallel to said substrate.
5. (Original) The device of claim 4, wherein said permalloy layer is located between said substrate and said movable element.
6. (Original) The device of claim 4, wherein said permalloy layer is located on an opposite side of said substrate from a side of said substrate that supports said movable element.
- 7-8 (Canceled)

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9. (Original) The device of claim 5, further comprising a second permalloy layer located on an opposite side of said substrate from a side of said substrate that supports said movable element.

10. (Original) The device of claim 5, wherein said movable element is located between said permalloy layer and said permanent magnet.

11. (Original) The device of claim 6, wherein said movable element is located between said substrate and said permanent magnet.

12-28 (Canceled)

29. (Original) The device of claim 1, wherein said magnetic material comprises a permalloy.

30-38 (Canceled)